

REMARKS

Prior Problem under Section 112

A prior Section 112 rejection was withdrawn by the examiner in the Official Action mailed January 28, 2003.

Claims 4 and 7 and 8 have been cancelled above as explained below. Claims 1, 3, 5 and 9 to 14 are now pending in this application.

The applicants attorney apologizes for the error made in Claim 5, which has been corrected on the attached clean copy.

Section 112 Claim Rejection

Claim 11 is rejected by the examiner in the Official Action mailed January 28, 2003 because it was not understandable.

Claim 11 had been previously amended to eliminate reference to trademarks to overcome the examiner's proper §112 rejection. The specific chemical description for the trademarked products involved was substituted, but by error, the applicant's attorney made a typographical error – see last paragraph on page 9 in the specification for the description of the chemistry. Claim 11 has been amended to correct the attorney mistake.

The Art Rejection

The examiner has not been convinced by applicants prior attempts to distinguish the Derrick reference and has rejected Claim 1, 4, 5, 7 to 10 and 12-13 as anticipated under Section 102 over Derrick U.S. Patent No. 3,893,847 ("Derrick"). As pointed out, Derrick is a patent filed in 1971, more than thirty years ago. The examiner has also rejected Claims 3 and 14 as obvious over the same Derrick reference.

While applicant is not fully convinced the examiner is correct as to the Derrick reference, this After Final Response proposes an Amendment of the claims to cover the particularly preferred embodiment of the instant invention, i.e. the product described on page 10 of the

specification which is a mixture of a functionalized starch and a copolymer of acrylate and acrylamide. It is respectfully requested that the examiner, although having wide discretion in this regard, permit the Amendment at this time.

The objection of the present invention is to provide a useful synthetic fuel that contains at least 90% coal dust. This invention very importantly provides synthetic fuel having in certain circumstances higher BTU content than natural coal and uses as its main ingredient, coal dust, which is a waste product of known environmental harm and concern. It is believed somewhat surprising that the fuel containing the additives used in the invention often have a higher BTU content than coal itself (from the same mine) and hence gives the customer more value for what is often the same price.

The invention as now amended is directed to a synthetic fuel, comprising:

- (a) at least about 90 wt. % of coal dust;
- (b) from about 0.5 to 8.0 wt. % based on the weight of the coal dust of one or more organic chemicals selected from the group consisting of functionalized starches and mixtures of functionalized starches and copolymers of sodium acrylates and acrylamide reactive with said coal dust, and
- (c) water.

With the above claim change in mind it is submitted that Derrick is not a teaching of the invention of the now pending claims. Importantly Derrick is an over twenty-five year old patent that really does not address the same problem of remediation of the coal lagoon and waste site problem as applicants.

Derrick teaches that finely ground iron ore can be mixed with water and an exceedingly high molecular weight straight chain water soluble polymers to form an agglomerate – Col. 1, lines 44 to 54. Applicants agree with the examiner that Derrick in a very large number of other

"finely ground" materials includes coal dust; however its teaching is directed to pellets of iron oxide which is the subject of Derrick's work described in columns 3 to 8 of his 8 column patent.

Some teaching of copolymers possibly similar to applicants in Derrick exists and applicants have limited their claims, reluctantly, to require a mixture of starch and defined copolymers when copolymers are used.

There is no teaching in Derrick of the chemicals now covered by modified Claim 1 being used – note that Derrick literally discusses millions of chemicals with his high molecular of weight 25,000,000 being the very "heart of his invention" – see Col. 1, lines 54 to 61 - the chemicals of the modified claims may possible include some high weight. The vague reference to starch in Derrick in another long laundry list as a starch "grafted polyacrylonitrile" is, and should not be sufficient to show obviousness of the instant invention.

With the limitation in claims now proposed by the applicants, it is hoped that the examiner will truly believe that Derrick does not teach or suggest applicant's invention which invention is both novel and non-obvious.

CONCLUSION

Allowance is requested if possible for an invention of value to the environmental/commercial world which it tries to help for the better.

Reconsideration for the rejection is respectfully requested and the allowance of the pending claims solicited.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that the accompany After Final Amendment in this matter is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Mail Stop AF
U.S. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on May 16, 2003

Brenda L. Heaton

(Name of person making deposit)

Brenda L. Heaton

(Signature)

May 16, 2003

(Date)

Modified Claims:

1. A synthetic fuel composition, comprising:
 - (d) at least about 90 wt. % of coal dust;
 - (e) from about 0.5 to 8.0 wt. % based on the weight of the coal dust of one or more organic chemicals selected from the group consisting of functionalized starches and mixtures of functionalized starches and copolymers of sodium acrylates and acrylamide reactive with said coal dust, and
 - (f) water.
3. A fuel composition according to Claim 1, wherein the coal dust is from anthracite coal.
5. A fuel composition according to Claim 1, which is compacted.
9. The synthetic fuel composition according to Claim 1, wherein about 90% of the particle of the coal dust are 50 microns or less.
10. A synthetic fuel component comprising:
 - a) at least about 90 wt. % of coal dust;
 - b) about 0.5 to 8 wt. % based on the weight of the coal dust of one or more functionalized starches; and

c) water.

11. They synthetic fuel composition according to Claim 10, where the functionalized starch is one or more polysaccharide resins consisting of a solution of a polysaccharide having a dextrose equivalent between 0.1 and 100 wherein the polysaccharide has been chemically modified.

12. A method of making a synthetic fuel composition, comprising:

- a) mixing at least about 90 wt. % of coal dust with water and with one or more organic chemicals selected from the group consisting of functionalized starches and mixtures of functionalized starches and copolymers of sodium acrylates and acrylamide reactive with said coal dust to form a composition; and
- b) compacting the composition; thereby forming the synthetic fuel composition.

13. The method of Claim 12 wherein at least about 90 % of the particle sizes of the coal dust is 50 microns or less.

11. A method of making a synthetic fuel composition according to Claim 12, wherein compaction is provided by a pug mill.